

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

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Claim 1. (currently ~~amended~~) In a multi-protocol label switching system (MPLS) data network comprised of a plurality of data switches that are interconnected to form a plurality of data paths from a source node to a destination node through a first set of data switches, a method of establishing a data flow over a protection path from ~~said a~~ source switch to ~~said a~~ destination switch through a second set of switches, said method comprises ~~comprised of the steps of:~~

- A2
- a. sending a first predetermined ~~control~~ message, ~~over a first data path~~ from said a first switch to a second switch, said first predetermined message establishing at least a working path and a protection path through said network between said first and second switches;
  - b. sending a second predetermined ~~control~~ message, ~~over a second data path~~ from said second switch to said first switch, said second predetermined message establishing ~~at least a protection~~ a reverse notification path through said network between said second and said first ~~and second~~ switches; and
  - c. ~~associating said first working path to said protection path~~ sending a third message over said reverse notification path, from said second switch to said first switch. to enable control protection switching by said first switch.

Claim 2. (currently ~~amended~~) The method of claim 1 wherein ~~said step of sending at least a first~~ predetermined message is comprised of the step of adding a protection messaging field to a label distribution protocol (LDP) message, said protection messaging field carrying protection pathway information between MPLS network switch elements.

Claim 3. (currently ~~amended~~) The method of claim 1 wherein ~~said step of sending at least a first~~ predetermined message is comprised of the step of adding a protection messaging field in an

MPLS reservation protocol message (RSVP), said protection field carrying protection pathway information between MPLS network switch elements.

Claim 4. (currently amended) The method of claim 1 wherein ~~said step of~~ sending at least a first predetermined message, ~~over a first data path~~ from said first switch to a second switch, ~~said first predetermined message~~ establishing at least a working path and a protection path ~~through said network between said first and second switches~~ includes the step of:

identifying at least one ~~data~~ switch of said an MPLS network as a switch element by the contents of at least one control field in a message field of an MPLS message;

sending said at least one control field to at least one ~~data~~ switch of said MPLS network.

Claim 5. (currently amended) The method of claim 1 wherein ~~said step of~~ sending at least a first predetermined message, ~~over a first data path~~ from said first switch to a second switch, said first predetermined message establishing at least a working path and a protection path through said network between said first and second switches includes the step of:

identifying at least one ~~data~~ switch of said an MPLS network as a protection switch element by the contents of at least one control field in a message field of an MPLS message;

sending said at least one control field to at least one ~~data~~ switch of said MPLS network.

Claim 6. (currently amended) The method of claim 1 ~~wherein said~~ further including the step of label binding said first predetermined message from said second switch to a third switch.

Claim 7. (currently amended) The method of claim 1 wherein said ~~first data~~ working path is set up loosely.

Claim 8. (currently amended) The method of claim 1 wherein said ~~first data~~ working path is set up explicitly.

Claim 9. (currently amended) The method of claim 1 further including the step of mapping labels to data routed along said ~~first data~~ working path according to predetermined criteria that includes the quality of service to be granted said data.

Claim 10. (~~currently~~ amended) In a multi-protocol label switching system (MPLS) data network comprised of a plurality of data switches that are interconnected to form a plurality of data paths from a source node to a destination node through ~~a first set of~~ said data switches, a method of ~~establishing a routing data from a working path through said network to a protection path through said network from said a source switch to said a destination switch through said first set of switches,~~ said method comprising: ~~comprised of the steps of:~~

- a. ~~sending at least a first predetermined control message, over a first control path from said a first switch to a second switch, said first predetermined control message establishing at least a working path and a separate protection path through said network between said first and second switches; over which data is to be sent from said source switch to said destination switch. and~~
- b. sending a second predetermined control message, from said second switch to said first switch, said second predetermined message establishing a reverse notification path through said network between said second and said first switches; and
- c. sending a third message over said reverse notification path from said second switch to said first switch, the interruption of which controls protection switching by said first switch.

Claim 11. (~~currently~~ amended) The method of claim 10 wherein ~~said step of sending at least a first predetermined control message is comprised of the step of~~ comprises: adding a protection messaging field to a label distribution protocol (LDP) message, said protection messaging field carrying protection pathway information between MPLS network switch elements.

Claim 12. (~~currently~~ amended) The method of claim 10 wherein ~~said step of sending at least a first predetermined control message is comprised of the step of~~ comprises: adding a protection messaging field in an MPLS reservation protocol message (RSVP), said protection field carrying protection pathway information between MPLS network switch elements.

Claim 13. (~~currently~~ amended) The method of claim 10 wherein ~~said step of sending at least a first predetermined control message, over a first data path from said a first switch to a~~

~~second switch, said first predetermined control message establishing at least a protection path through said network between said first and second switches includes the step of:~~

identifying at least one ~~data~~ switch of said MPLS network as a protection switch element by the contents of at least one data field in a message field of an MPLS message;

sending said at least one data field to at least one ~~data~~ switch of said MPLS network.

Claim 14. (currently/amended) The method of claim 10 wherein said ~~first data~~ working path is set up loosely.

Claim 15. (currently/amended) The method of claim 10 wherein said ~~first data~~ working path is set up explicitly.

Claim 16. (currently/amended) The method of claim 10 further including ~~the step of:~~ mapping labels to data routed along said ~~first control~~ working path according to predetermined criteria that includes the quality of service to be granted said routed data.

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